

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Anthony C. Zuppero et al. Art Unit: 1753

Serial No.: Not Yet Known Examiner: Diamond, Alan D.

Filing Date: July 23, 2003 Date: July 23, 2003

TITLE: GAS SPECIE ELECTRON-JUMP CHEMICAL ENERGY CONVERTER

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and in conformance with the procedures of 37 C.F.R. §§ 1.97 and 1.98 and M.P.E.P. § 609, attorneys for the Applicants hereby bring the following references to the examination of the above-identified application to the attention of the Examiner. The references are listed on the attached modified PTO/SB08AB forms from the parent application no. 10/142,684. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service under 37 CFR § 1.10 on the date indicated below and is addressed to Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. Express Mail Label No.: EJ622915761US, Date of Deposit: July 23, 2003.



Eunhee Park (Reg. No. 42,976)

This statement is being filed under 37 C.F.R. § 1.97(b)(3) before the mailing of a first Office Action on the merits. As discussed with Examiner Alan D. Diamond, copies of the 1449 forms from the parent application, but not the copies of the references, are enclosed.

No fee is believed necessary with the filing of these documents. However, if a fee is deemed necessary, the Commissioner for Patents is hereby authorized to charge the fee set forth in § 1.17(p) or credit any overpayments that may be necessary to Deposit Account No. 02-0393 of Baker & McKenzie.

Respectfully submitted,

Date: July 23, 2003



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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
Application Number				10/142,684	
Filing Date				5/10/2002	
First Named Inventor				Anthony C. Zuppero	
Art Unit				3745	
Examiner Name				TBA	
Attorney Docket Number				22122878-12	
Sheet	1	of	1		

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		Examiner Name	Diamond, Alan D.
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		Attorney Docket Number	22122878-12

U.S. PATENT DOCUMENTS					
Examiner Initials [*]	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	1	US- 4,590,507	05-20-1986	CAPASSO, et al.	
	2	US- 4,686,550	08-11-1987	CAPASSO, et al.	
	3	US- 4,849,799	07-18-1989	CAPASSO, et al.	
	4	US- 5,311,009	05-10-1994	CAPASSO, et al.	
	5	US- 6,084,173	07-04-2000	DIMATTEO	
	6	US- 6,232,546	05-15-2001	DIMATTEO, et al.	
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PTO/SB/08B (10-01)

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	7	AUERBACH, Daniel J.; "Hitting the Surface--Softly"; Science, 294, (2001), pp. 2488-2489	
	8	BONDZIE, V. A., et al.; "Oxygen adsorption ... gold particles ... TiO ₂ (110)"; J. Vac. Sci. Tech. A., (1999) 17, pp. 1717 and figure 3	
	9	BOULTER, James; "Laboratory Measurement of OH ... "; http://pearl1.lanl.gov/wsa2002/WSA2002talks.pdf	
	10	CHAN H.Y.H., et al.; "Methanol Oxidation On Palladium Compared To Rhodium..."; J. Catalysis v. 174(#2) pp. 191-200 (1998) (abstract and figure 1 only)	
	11	CHIANG, T.-C.; "Photoemission studies of quantum well states in thin films; Surf. Sci. Rpts.39 (2000) pp 181-235	
	12	CHUBB, D. L., et al; "Semiconductor Silicon as a Selective Emitter"; http://www.thermopv.org/TPV5-2-05-Chubb.pdf (abstract only)	
	13	CORCELLI, S. A., et al.; "Vibrational energy pooling in CO on NaCl(100) ... "; J. Chem. Phys.(2002) 116, pp. 8079-8092	
	14	DANESE, A., et al.; "Influence of the substrate electronic structure on metallic quantum well ..."; Prog. Surf. Sci., 67, (2001), pp 249-258	
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	16	DIEKHONER, L., et al.; "Parallel pathways in methanol... Pt(111)"; Surf. Sci. 409 (1998) pp 384–391	
	17	DIESING, D., et al.; "Aluminium oxide tunnel junctions..."; Thin Solid Films, Vol. 342 (1-2) (1999) pp. 282-290	
	18	DIMATTEO, R. S., et al.; "Enhanced photogeneration of carriers... vacuum gap"; Appl. Phys. Lett. (2001) 79, pp. 1894-1896	
	19	DIMATTEO, R. S., et al.; "Introduction to and Experimental Demonstration of Micron-gap ThermoPhotoVoltaics"; http://www.thermopv.org/37DiMatteo.html (abstract only)	
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	21	ECHENIQUE, P. M., et al.; "Surface-state electron dynamics in noble metals"; Prog. Surf. Sci., 67, (2001), pp 271-283	
	22	ENDO, Makoto, et al.; "Oxidation of methanol ... on Pt(111) ..."; Surf. Sci. 441 (1999) L931–L937, Surf. Sci. Letters	
	23	FAN, C. Y., et al.; "The oxidation of CO on RuO ₂ ..."; J. Chem. Phys. 114, (2001), pp. 10058-10062	
	24	FANN, W.S., et al.; "Electron thermalization in gold"; Phys. Rev. B (1992) 46 pp. 13592-13595	

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	25	GEE, Adam T., et al.; "The dynamics of O2 adsorption on Pt(533)..."; J. Chem. Phys.(2000) 113, pp. 10333-10343	
	26	GERGEN, Brian, et al.; "Chemically Induced Electronic Excitations at Metal Surfaces"; Science, 294, (2001) pp. 2521-2523	
	27	GULIANTS, Elena A, et al.; "A 0.5-μm-thick polycrystalline silicon Schottky.."; Appl. Phys. Let., (2002), 80, pp. 1474-1476	
	28	GUMHALTER, B. , et al.; "Effect of electronic relaxation ... adsorption reaction rates"; Phys. Rev. B (1984) 30 pp. 3179-3190	
	29	HALONEN, Lauri, et al.; "Reactivity of vibrationally excited methane on nickel..."; J. Chem. Phys.(2001) 115, pp. 5611-5619	
	30	HASEGAWA, Y., et al.; "Modification of electron ... standing wave ... Pd ...; Surf. Sci., in press, 11 April 2002	
	31	HENRY, Claude R.; "Catalytic activity ... nanometer-sized metal clusters"; Applied Surf. Sci., 164, (2000) pp 252-259	
	32	HESS, S., et al.; "Hot Carrier Relaxation ... Phonon Scattering in GaN"; http://www.physics.ox.ac.uk/rtaylor/images/hot%20carrier%20poster.pdf	
	33	HO, Wilson; http://www.lassp.cornell.edu/lassp_data/wilsonho.html	

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	34	HOHLFELD, J, et al.; "Electron and lattice dynamics ... optical excitation of metals"; Chemical Physics, 251 (2000) pp 237-258	
	35	HONKALA, Karoliina, et al.; "Ab initio study of O2 precursor states on the Pd(111)..."; J. Chem. Phys. (2001) 115, pp. 2297-2302	
	36	HOU, H.; Y., et al.; "Chemical Interactions of Super-Excited Molecules on Metal Surfaces"; http://www2.chem.ucsb.edu/~wodtke/papers/dan1.pdf	
	37	HOU, H., et al.; "Direct multiquantum relaxation of highly vibrationally excited NO ..."; J. Chem. Phys., 110, (1999) pp 10660 - 10663	
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	40	IBH; "NanoLED overview"; http://www.ibh.co.uk/products/light_sources/nanoled_main.htm	
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	42	IFTIMIA, Ileana, et al.; "Theory ... scattering of molecules from surface"; Phys. Rev. B (2002) 65, Article 125401	

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	43	ISHIKAWA, Yasuyuki, et al.; "Energetics of H ₂ O dissociation and COads+OHads reaction .. Pt."; Surf. Sci. preprints SUSC 12830, 27 April 2002	
	44	JOHNSON, R. Colin ; "Molecular substitution ...terahertz switch arrays"; EE Times, (04/10/00, 3:35 p.m. EST) http://www.eet.com/story/OEG20000410S0057	
	45	KAO, Chia-Ling, et al.; "The adsorption ... molecular carbon dioxide on Pt(111) and Pd(111)"; Surf. Sci., (2001) Article 12570	
	46	KATZ, Gil, et al.; "Non-Adiabatic Charge Transfer Process of Oxygen on metal Surfaces"; Surf. Sci. 425(1) (1999) pp. 1-14	
	47	KAWAKAMI, R. K., et al.; "Quantum-well states in copper thin films"; Nature, 398, (1999) pp 132 - 134	
	48	KOMEDA, T., et al.; "Lateral Hopping of Molecules Induced by Excitation of Internal Vibration..."; Science, 295, (2002) pp 2055-2058	
	49	LEWIS, Steven P., et al.; "Continuum Elastic Theory of Adsorbate Vibrational Relaxation"; J. Chem. Phys. 108, 1157 (1998)	
	50	LEWIS, Steven P., et al.; "Substrate-adsorbate coupling in CO-adsorbed copper"; Phys. Rev. Lett. 77, 5241 (1996)	
	51	LI, Shenping, et al.; "Generation of wavelength-tunable single-mode picosecond pulses ..."; Appl. Phys. Lett. 76, (2000) pp 3676 - 3678	

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	52	MITSUMI, T., et al.; "Coadsorption and interactions of O and H on Pd(111)"; Surf. Sci., Article 12767, (2002)	
	53	MOULA, Md. Golam, et al.; "Velocity distribution of desorbing CO ₂ in CO oxidation on Pd(110)..."; Applied Surf. Sci., 169-170, pp 268-272 (2001)	
	54	MULET, Jean-Philippe, et al.; "Nanoscale radiative heat transfer between a small particle ..."; Appl. Phys. Lett., 78, (2001) p 2931	
	55	NIENHAUS, H, et al.; "Direct detection of electron-hole pairs generated by chemical reactions on metal surfaces"; Surf. Sci. 445 (2000) pp 335– 342	
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	57	NIENHAUS, H., et al.; "Selective H atom sensors using ultrathin Ag/Si Schottky diodes"; Appl. Phys. Lett. (1999) 74, pp. 4046-4048	
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	59	NIENHAUS, H, et al.; "Electron-Hole Pair Creation at Ag and Cu ... of Atomic Hydrogen and Deuterium"; Phys. Rev. Lett., 82, (1999) pp. 446-449	
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	61	NOLAN, P. D., et al.; "Molecularly chemisorbed intermediates to oxygen adsorption on Pt ..."; J. Chem. Phys. 111, (1999), pp 3696 - 3704	
	62	NOLAN, P. D., et al.; "Translational ... Precursors to Oxygen Adsorption on Pt(111)"; Phys. Rev. Lett., 81, (1998) pp 3179 - 3182	
	63	OGAWA, S., et al.; "Optical and Femtosecond Dynamics in Ag/Fe(100) Quantum Wells"; Phys. Rev. Lett. 88, 116801 (2002)	
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		Filing Date	5/10/2002
		First Named Inventor	Anthony C. Zuppero
		Group Art Unit	1753
		Examiner Name	Diamond, Alan D.
		Attorney Docket Number	22122878-12
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	70	SCHEWE, P., et al.; "CO2 Production at the Single-Molecule Level"; http://www.aip.org/eneews/physnews/2001/split/561-1.html	
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